

IMPACT OF INFORMATION SERVICE ON SOLID WASTE MANAGEMENT SYSTEM AMONG JUNIOR SECONDARY SCHOOL STUDENTS IN KWAYA-KUSAR LOCAL GOVERNMENT AREA, BORNO STATE, NIGERIA

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Abstract

The study investigated the impact of information service on solid waste management system among Junior Secondary School students in Kwaya-kusar Local Government Area, Borno State. The Study was guided by four research questions and tested by two (2) hypotheses. Cross section survey research design was used. Population of the study was 1,759 with a sample of 180 Students in 20 schools which were randomly selected, using the purposive and convince sampling technique. The instrument adopted for data collection was questionnaire developed by the Researchers. The statistics Pearson Product moment correlation, mean frequency and standard deviation were used to analyse the entire variable to meet the objectives of the study. The mean was used to answer all the research questions, and t-test statistics were used to test the null hypothesis at 0.05 Significance 0.72. The study revealed that there is significant difference that exists between the rating of problems of information services and solid waste disposal management and hypothesis two was also rejected, showing that there is a significant difference between male and female Students mean rating on the Impact of Information Services on Solid waste disposal among Junior Secondary Schools. Based on the findings, it was recommended among others that there is need for adequate equipment and professional counsellors in junior secondary school in study area to pass proper information on solid waste disposal.

KEY WORDS: Waste, Solid Waste, Waste Management, Solid Waste Management,

Introduction

There is no doubt that a dirty environment affects the standard of living authentic sensibility, health of the people and thus, the quality of their living, it is obvious that the aesthetics (beauty) of almost every environment is gradually finding away, because in the past, whenever the wind blows, the wastes that will be seen on the air was only biodegradable wastes, but nowadays when

the wind blows, the environment will be littered with different types of waste such as polythene bags, papers, rags etc. and some few leaves. This is because there is exploitation of resources. Common waste produced during the early ages was mainly ashes human and biodegradable wastes. The consumption patterns of people have shifted dynamics from mainly organic materials obtained from the land to industrial produce such as disposable goods. The consumption of these industrial products often results in the generation of inorganic waste materials such as packaging materials shopping bags, electronic wastes, which require special procedures to dispose of in environmentally sound manners.

According to Bamigloye (2003) in Africa, Nigeria to be precise, government finds it very difficult to solve this problem alone which has called for the participation of private sectors and the contribution of individuals. The quantity of wastes produced in cities, towns and villages continue to increase daily, while the effectiveness of the means of handling waste in terms of collection and disposal remains undesirably low. The problem of waste disposal is associated with indiscriminate dumping in an open place/landfills and drainage system, as it can easily be observed that too much garbage is lying almost everywhere, on the streets, near market/shops, institution/schools, Hospital/clinics/Dispensaries and in every gathering areas.

Mshelia (2015), posed that in Nigeria, waste are dumped in proliferate areas regarded as no man's land there by destroying the aesthetics (beauty) of the land. Mshelia further stated that the means of collection of wasted are limited, because most people use facilities such as polythene bags, dustbins and old buckets. The transportation is also done through human portorage, wheel barrows, metal carts and open ground within the neighborhood, resulting into mountains of wastes. The features of Urban Scenery of Nigeria today exhibits the gradual take-over or virtually every available open space by dumps or heaps made up of solid wastes. The relevance of this ambivalence to environment quality is that the city is regarded more or less as geographic "no man's land", where relationships are almost exclusively impersonal. Consequently, the maintenance of the environment becomes "no man's business".

The abandoned waste may also become a breeding ground for diseases carrying organisms, leading to diseases such as cholera, malaria and typhoid. Medina 2002, in Prandhan (2008), said in any developing country, the threats posed by improper handling and disposal of solid waste (though often ignored) contributed to the high level of mortality and morbidity. Human and eco-system health is also threatened due to improper handling and disposal of solid waste pollutes the air, water and land resources, therefore, threatening the wellbeing of people, animals and plants species, as well as water. As safe and portable drinking water becomes widely scarce, environmental contaminations attributed to poor sanitation and improper disposal of waste, render water sources unhealthy for people in many areas of both developing and developed countries across the world.

MCCain (2007) said the environment belongs to God, so the indiscriminate disposal of waste on the environment will spoil God's property, he continues that improper disposal of wastes is disobedience to God and is a sin. A study conducted by Oyegunle (2016) posed that poor sanitation and unsafe disposal of solid wastes threaten the wellbeing of humans over years. Samson (2014) shows that in Nigeria, the perception of domestic waste disposal indicated that peoples' attitude about and perceptions of sanitation issues contribute to the waste management problem. Samson further stated that poor waste management situation in recent years has led to high incident of sanitation related illness such as cholera, intestinal worms and typhoid.

The indiscriminate disposal of waste and living it uncollected is mostly caused by the ignorant of people, lack of education, lack of knowledge on the impact of improper disposal of waste, lack of information on how to manage waste. Information is an essential part of virtually every guidance programme. Weather we want to assist, direct, help students to make better adjustment, better choices or optimum development, information services is designed to provide students with a greater knowledge of education, personal-social and vocational opportunities so that they make realistic choices and decision about their educational, personal-social and

vocational plan. Mallum and Tunji, (2004) said information is the most valuable aspect of human existence. This is because there is nothing one can do without information. Individual need appropriate, adequate and usable information before they can make intelligent decision.

Information service is one of the guidance services which counselors use in disseminating messages in every community or any set up. In every sector information service is the most useful and important thing. When a leader or someone wants to pass a message to his people, he/she must use the information service. In schools, teachers pass information to their students in order to understand things clearly. In the places worship when followers are well informed on a particular thing, they obey and dedicate their time to do that. When people misbehave in any gathering, it is always assumed there is misunderstanding; or there is misinterpretation of information. It is said that “education is success for he who has appropriate and adequate knowledge, skills and message. Lannap, (2004) said information service is designed to provide a school child with an increasing knowledge of educational, vocational, social, emotional, recreational, moral and personal social opportunities, so that such a child may make better choices and sound decision assess his/her progress by self-assessment. Mallum and Tunju, (2004), posited that if individual find correct and appropriate information he/she has to learn how to handle it for effective result because information has no decisional significance of itself. It is only when it is processed, tested and compared that it can find its place in the balance of facts and inference that make for decisions.

Every school needs to be clean and free of pollution, which is for the health of the plants, animals, humans in the environment they live. A clean school environment facilitates learning, in the sense that it will have fresh air to breath in, but a polluted environment will have an offensive odour which will make students not to concentrate in learning. Lack of education, proper indignation and enlightenment made many people to develop poor sanitation habit, “i-don't-care” attitude and indiscrimination waste disposal which lead to polluting the environment causing health hazard to the organisms living on it.

Objectives Of The Study

The specific objectives of the study include:

1. To find out the solid waste management system practice among junior Secondary School Students in KwayaKusar Local Government Area, Borno State.
2. To identify the impact of information service on solid waste disposal among Junior Secondary School Students in KwayaKusar Local Government Area, Borno State.
3. To assess the new solid waste management system being proposed for Junior Secondary School Students in KwayaKusar Local Government Area, Borno State.
4. To propose recommendation for development of a sustainable solid waste disposal system for Junior Secondary School Students in KwayaKusar Local Government Area, Borno State.

Theoretical Framework

The theory adopted for this study is social learning theory by Albert Bandura (1925) in David (2015) Bandura's social learning theory which posed that people learn from one another, via observation imitation and modelling. The key concept of the theory is that people learn through observing others' behaviour, attitude and outcomes of those behaviour. Most human behaviour is learned observationally through modelling, from observing others one forms and idea of how new behaviours are performed, and on later occasion this coded information serves as a guide for action. Bandura social learning theory explains human behaviour in terms of continuous reciprocal interaction between cognitive behaviour and environmental influence. The necessary conditions for effective modelling includes: attention, retention, reproduction, and motivation.

Bandura also believed in reciprocal determinism “that is the world and a person's behaviour causes each other. Bandura who study adolescent aggression and found this too simplistic and so in addition, he suggested that behaviour causes environment as well. Social learning theory has sometimes been called bridge between behaviourist and cognitive learning theories because it encompasses attention memory and motivation. As stated by Bandura, the Researchers discovered that students in the study area (KwayaKusar Local Government Area) do not dispose solid waste properly because of lack of proper information service. Instead they dispose solid waste carelessly just as the way they see others do. Thus, students, teachers and parents need true, valid and accurate information for proper disposal of solid waste. In order to keep the school environment and the community clean and neat.

Research Questions

The following research questions were posed to guide the study.

1. What are the solid waste management system practices among Junior Secondary School Students in KwayaKusar Local Government Area, Borno State?
2. To what extent does information service on solid waste disposal has an impact among Junior Secondary School Students in KwayaKusar Local Government Area, Borno State?
3. What are the impacts of ongoing information on solid waste disposal among Junior Secondary School Students in KwayaKusar Local Government Area, Borno State?
4. What is the new solid waste management system being proposed for Junior Secondary School Students in KwayaKusar Local Government Area, Borno State?

Research Hypotheses

The following hypotheses were formulated and tested a 0.05 level of significance.

1. There is no significant impact of information service on students' solid waste disposal among Junior Secondary School Students in KwayaKusar Local Government Area, Borno State.
2. There is no significant difference between male and female students mean rating of the impact of information service on solid waste disposal among Junior Secondary School Students in KwayaKusar Local Government Area, Borno State.

Methodology

Study adopted survey Research Design, the choice of this design is based on the fact that data are collected at a particular time from a sample for the purpose of describing the population presented by the sample at that particular time. This research work therefore, collects data from a sample of the research study area, which determines the impact of information service on solid waste disposal among Junior Secondary School Students in KwayaKusar Local Government Area, Borno State. The population of this study consisted of all JSS II Students in Junior Secondary Schools IN KwayaKusar Local Government Area, Borno State. KwayaKusar Local Government Area has 21 Junior Secondary Schools, including both public and private schools. It has three (3) private and 18 public schools. JSS II students in these schools have the total population of 1,759 who constitute the population of the study. They consist of both male and female within the range of 13-14 years. They come from all ethnic group inhabit the study area. Their parents are literate and illiterate of Muslims, Christians, and Traditional Religion. The schools have a total of 898 boys 897 girls' students which gave the total of 1,759 student in JSS II. While 10% of the population of the JSS II students in all the Junior Secondary Schools in the study Area will be used. This sample size was preferred by the Researchers because it is considered enough and adequate in view of the statistical requirements. A sample of 180 was drawn from twenty (20) Junior Secondary Schools in the study Area, because one of the school which is Inb Abbas private school KwayaKusar has no JSS II students, but has only JSS I which were not among the target population.

The instrument that was used for data collection was questionnaire, which was designed by the Researchers titled; impact of information service on solid waste disposal among Junior Secondary School Students Questionnaire (IISSWDJSSQ). The items were clear, simple and straight forward to the point. The questionnaires were designed to capture interval, ordinal and nominal data as per the study objectives, for both descriptive and inferential statistics. This was followed by subjecting the items to expert security and the items were judged based on content and objectives, representiveness, language use, time given to answer the questions. The face and content validity were established. The appropriateness and comprehensive of the items were checked by two experts. The reliability result is 0.70 which is excellent.

Results

Research Question One: What are the Solid Waste Management System Practices among Junior Secondary School Student InKwayaKusar Local Government Area, Borno State?

S/NO	STATEMENT	N	$\bar{X}$	SD	DECISION
1.	Sweeping and picking when the environment is littered	180	4.39	.704	Accept
2.	Dumping of solid waste close to the classes	180	4.06	.996	
3.	Students clear the solid waste dumped close to the classroom whenever they are informed.	180	4.06	.996	
4.	School environment use to be littered with animal faeces	180	3.73	.86	

Table 2 reveals the mean and standard deviation result analysis on the Solid Waste Management System Practice among Junior Secondary School Students. From the result, the mean of all the items were above the criterion mean 3:00. Meaning, the items were accepted by students as Solid Waste Management System Practiced among Junior Secondary School Students in KwayaKusar Local Government Area, Borno State.

Research Question Two: To what extent does information Service on Solid Waste Disposal has Impact on Junior Secondary School Students in KwayaKusar Local Government Area, Borno State.

S/NO	STATEMENT	VHE	HE	LE	VLE	TOTAL
1.	Reduce the act of "I don't care" attitude among students	144 (80%)	36 (20%)	-	-	180
2.	Reduce the spread of diseases	151 (84%)	29 (16%)	-	-	
3.	Reduce the dumping of refuse close to classes	147 (82%)	30 (16%)	(2%)	-	180
4.	Made the environment clean and attractive	149 (83%)	27 (15%)	4 (2%)	-	
VHE = Very High Extent HE = High Extent LE = Low Extent VLE = Very Low Extent						

Table 3 reveals that the Impact of Information Service on Solid Waste Disposal among Junior Secondary School Students. The responses of the Students on item 3 to 6 shows that the Impact of Information Service on Solid Waste Disposal among Junior Secondary School Students is high for item 3.80% indicated that the Impact is very high. Item 4 indicated very high Impact. Also item 5 and 6 indicated 82% and 83% respectively. To this end, all the four items were accepted.

Research Question Three: What are the Impacts of Information on Solid Waste Disposal among Junior Secondary School Students in KwayaKusar Local Government Area, Borno State?

S/NO	STATEMENT	N	$\bar{X}$	SD	DECISION
1.	School environment use to be swept when students were asked to.	180	4.32	.94	
2.	Dumped waste close to the classroom use to be cleared when students were asked to.	180	4.79	.48	.0
3.	Students immediately stop dumping of solid close to classes whenever they were informed.	180	4.64	.81	
4.	Dump solid waste used to be burnt when students were told to do so.	180	4.44	.67	
5.	Students pursue animals out of school environment whenever they were told to do so.	180	3.63	2.13	
6.	Students don't dispose solid disposed solid waste indiscriminately whenever they were asked to stop	180	3.59	1.16	
7.	School environment use to be very neat when the students were asked to clear the environment	180	4.14	1.12	

Table 4 shows the result analysis on the Impact of ongoing Information on Solid Waste Disposal. The result reveals that all the items have their mean above the criterion mean of 3:0 which means that all the seven items were accepted as Impact of ongoing Information Service on Solid Waste Disposal.

Research Question Four: What are the new Solid Waste Management System proposed for Junior Secondary School Students in KwayaKusar Local Government Area, Borno State?

S/NO	STATEMENT	N	$\bar{X}$	SD	DECISION
1.	Counsellors should give orientation to students on solid waste management in schools.				
2.	Counsellor should give frequent information to students on solid waste disposal so as to reduce the act of "I don't care attitude".				
3.	School heads and other staff should give full support to counsellors in organizing programme on solid waste management to students in schools.				
4.	Counsellors are supposed to be good role models to students in schools on proper disposal of solid waste.				

Table 5 reveals the mean and standard deviation result analysis on new Solid Waste Management System Proposed for Junior Secondary School Students in KwayaKusar Local Government Area, Borno State from the result, the mean of all the items were above the criterion mean of 3:00. That means the items were accepted by Students as ne Solid Waste Management System Proposed to the Students in the study Area.

Hypothesis One: There is no significant Impact of Information Service on Students' Solid Waste Disposal among Junior Secondary School Students in KwayaKusar Local Government Area, Borno State.

Table 6: t-test result on Impact of Information Service on Student's Solid Waste Disposal

VARIABLE	N	$\bar{X}$	SD	T	DF	PVALUE
Problems of Information Service	180	29.46	6.307	74.87	179	.000
Solid Waste Disposal Management System	18	16.23	4.18			

T-test result on Impact of Information Service on Students' Solid Waste Disposal yielded t (179) = 79.87, $P<0.05$, Since the P value (0.000) is less than 0.05 level of significance, the null hypothesis was rejected, It was concluded that there is a significant difference that exists between the rating of Problems of Information Service and Solid Waste Disposal Management among Junior Secondary School Students in KwayaKusar Local Government Area, Borno State.

Hypothesis Two: There is no significant difference between male and female Students mean rating on the Impact of Information Service on Solid Waste Disposal among Junior Secondary School Students in KwayaKusar Local Government Area, Borno State.

Table 7: t-test Analysis on the Difference between Male and Female Students on Impact of Information Service

VARIABLE	N	$\bar{X}$	SD	DF	T	PVALUE
Male	106	25.79	5.91	178	-12.93	.000
Female	74	34.70	.46			

Table 5: revealsthe result analysis of difference between male and female Students mean rating on the Impact of Information Service on Solid Waste Disposal among Junior Secondary School Students in KwayaKusar Local Government Area, Borno State. The result yielded t (178) = - 12.93, $P<0.05$, since the P value (.000) is less than 0.05 level of significance, the null hypothesis was rejected. It is concluded that there is a significant difference between male and female Students mean rating on the Impact of Information Service on Solid Waste Disposal among Junior Secondary School Students in KwayaKusar Local Government Area, Borno State.

DISCUSSION

The study is on Impact of Information Service on Solid Waste Disposal among Junior Secondary School Students in KwayaKusar Local Government Area, Borno State. The results were obtained from one hundred and eighty (180) respondents in all the schools, from both Private and Public Schools. The result reveals that majority of the respondents are from Public Schools than Private Schools.

In table one Research Question one, the Solid Waste Management System Practiced

among Junior Secondary School Students. This reveals the mean and standards deviation result analysis were above the criterion mean of 3.00. Meaning the items was accepted by Students as Solid Waste Management System Practiced among Junior Secondary School Students in KwayaKusar Local Government Area, Borno State.

This indicates that the School Environment in the study Area to be littered with Solid Wastes and the Solid Wastes were swept and picked whenever the Environment becomes dirty. Samson, (2014) shows that the attitude of people about perception of sanitation issues contributed to Waste Management Problem. Borno State Environmental Agency (2017) (BOSEP) says that the "I don't care" attitude of people towards Waste Disposal due to the lack of enlightenment and proper information on Solid Waste have caused flood to some areas with the Metropolis which tend to be every year.

Research question two reveals the extent to which Information Service on Solid Waste Disposal has an Impact among Junior Secondary School Students has Impact. The result reveals that the responses to the Students on items 3 to 6 was very high Impact. Also item 5 and 6 indicated 82% and 83% respectively.

This shows that information service has great impact among Junior Secondary School Students. Proper and accurate Information Service on Solid Waste can drastically reduce the act of improper disposal of Solid Waste. This was confirmed by (Mc Cain, 2017) who preached on Solid Waste Disposal in COCIN Headquarters Church Plateau State. Which brought changes in the metropolis, streets were swept and waste bins were kept all over the junctions in the state during the regime of Da. David Jonah Jang. Iliya, Rimfat, Sekuk and Adam (2009) said a good information service helps young ones to prepare to meet the challenges of today and tomorrow.

Research question three shows the result analysis on the impact of ongoing information on solid waste disposal among Junior Secondary Students. The result reveals that all the items, were 7 to 13 have their mean above the criterion mean of 3.0 which indicated that all the seven items were accepted as impact of ongoing information on solid waste disposal among the Students. This implies that whenever the students were told to either sweep the school environment they sweep it, when they were told to pursue animals out of the school so as they will not litter the environment with their urine and feaces they ought to do it and also whenever they were told to stop dumping waste close to classroom and burn and clear the solid waste dumped close to their classes they do it immediately. Mallum and Tunji (2004), said information is the most valuable aspect of human existence, this is because where ever a valuable information on solid waste was passed to the Junior Secondary School Students they make intelligent decision and change their attitude toward the solid waste management.

Hypothesis one, table 4 indicates the t-test result analysis and impact of information service on students' solid waste disposal yielded $t(179) = 74.8$, $P < 0.05$, since the P value (0.000) is less than 0.05 level of significance, the null hypothesis was rejected, which shows that there is a significant difference exists between impact of information service on students' solid waste disposal among Junior Secondary School Students in KwayaKusar Local Government Area, Borno State.

Hypothesis two reveals the results analysis of difference between Male and Female Students mean rating on the Impact of Information Service on Solid Waste Disposal among Junior Secondary School Students in KwayaKusar Local Government Area, Borno State. The result yield $t(178) = -12.93$, $P < 0.05$, since the P value (.000) is less than 0.05 level of significance, the null hypothesis was rejected. It is shown that there is a significant difference between male and female Students mean rating on the Impact of Information Service on Solid Waste Disposal.

Conclusion

Based on the findings, this study concludes with the consideration that information service relates to solid waste disposal among Junior Secondary School in KwayaKusar Local Government Area, Borno State. The study concluded that improper disposal of solid waste that are common among Junior Secondary School Students in the study area, were as the result shows that there is lack of proper information on solid waste disposal to the students. The findings also concluded that, the adoption of “I don't care” attitude of parents of the students also aid in making the student to disposes waste indiscriminately. The lack of equipment and lastly the proposition based on the findings concluded that lack of professional counsellors in Junior secondary School in the study Area to guide the students on how to dispose solid waste has contributed to the rate of improper disposal of solid waste in the study area. That researchers recommended that guidance and counselling unit should be created in all secondary Schools to create awareness to student son the proper ways of solid waste management in KwayaKusar Local Government Area, and the State.

Recommendations

The recommendations were based on the findings and conclusions drawn from this study, the following recommendations were made:

1. School management should monitor and control learners, teachers and others to provide proper information on solid waste management to Junior secondary Schools in the study
2. School management should provide adequate equipment to manage solid waste properly, it should also formulate precise guideline and laws on how to manage solid waste properly.
3. Guidance and counselling unit should be created in all schools in KwayaKusar L.G.A. and Borno State at large and more professional counsellors should be posted to the schools.
4. There should be good relationship between school heads, teachers and school counsellors.

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